

REMARKS

In the Advisory Action dated May 16, 2005, the Examiner responds to Applicant's After Final Amendment by stating that based on the current application, a virtual image is formed at the focal point behind the mirror of a light diverging mirror. The Examiner contends that Takahashi shows in Fig. 4 that light reflected from the fourth mirror (M4) diverges going toward the fifth mirror (M5). Based on Fig. 4, the Examiner contends that it is obvious to one of ordinary skill in the art that the focal point behind the fourth mirror of Takahashi will be physically behind the sixth mirror (M6) of Takahashi. The Examiner further states that Takahashi discloses correcting aberrations (see col. 4, lines 54-59).

Applicant has amended claim 1 to recite that the virtual image is formed by the first optical group physically behind the sixth mirror. Applicant respectfully has clarified claim 1 to better illustrate to the Examiner the difference between the present invention and the Takahashi invention. More specifically, Applicant has amended claim 1 to make it clear that the claimed virtual intermediate image is an effect of the full six mirror catadioptric group (the first optical group) as opposed to being the effect of an artificially identified subgroup as the Examiner has done in constructing the argument in the Office Action against Applicant's claim 1.

In other words, Applicant respectfully submits that the Takahashi reference does not disclose a system where the virtual image is formed by the entire first optical group that is itself defined as including an even number of at least six mirrors. In contrast to the arrangement recited in amended claim 1, the Examiner contends that the cited reference produces a virtual image; however, the production of this virtual image is not the effect of the entire first optical group as in amended claim 1; but rather, is the result of a subgroup of mirrors.

For at least this reason, Applicant respectfully requests reconsideration and allowance of claim 1, in its amended form.

Claim 7 has been amended in a similar manner as claim 1 and therefore, the above discussion applies equally to claim 7.

Applicant also respectfully traverses the Examiner's finding that Takahashi discloses the claimed correcting aberrations since the Examiner has overlooked one important aspect set forth in the claims. More specifically, the present claims recite a system that corrects or influences chromatic aberration.

While the Takahashi reference may discuss some aberrations in the passage cited by the Examiner, what the Examiner has overlooked is that the claims recite a specific type of aberration, namely chromatic aberration. Thus Takahashi discuss some aberrations; however, from the basic optical concepts and knowledge, the all-mirror system of Takahashi can not correct or influence chromatic aberration. For example, claim 7 recites that that the first optical group provides compensative axial color correction for the second optical group. The other pending claims also make clear that the present invention and the present optic arrangement is directed to correcting or influencing chromatic aberration.

Applicant respectfully submits that the claimed nature of correcting chromatic aberration is neither disclosed nor suggested by the cited reference and since the cited reference fails to disclose the specific aberration that is corrected, it does not provide the necessary level of teaching to warrant and sustain the rejection. Applicant therefore requests reconsideration and allowance of the claims on at least the above grounds that the cited reference fails to disclose the claimed correction of chromatic aberration.

Applicant respectfully submits that the secondary references fails to cure the deficiencies of the primary reference. In particular, the Shafer reference and the Braat reference disclose much different types of systems as explained in the previous amendment and there is no motivation to keep the dioptic group G2 of Shafer and mix the catadioptric group of Shafer with the mirror system of Braat to end up with the objective set forth in either claim 11 or claim 13. With respect to claim 11, there is, for example, no motivation to for a set of features comprising a correction of the chromatic aberration as disclosed by Shafer , an intermediate image between the fourth and fifth mirror as disclosed by Braat and a last mirror with a convex surface as disclosed by Shafer.

With respect to claim 13, there is, for example, no motivation for a set of features comprising a correction of the chromatic aberration as disclosed by Shafer and a third and a fourth mirror located physically between a first and a fourth mirror as disclosed by Braat.

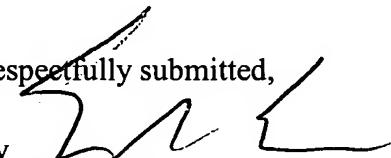
In addition, these secondary references fail to cure the deficiencies of the primary Takahashi reference in that the references do not disclose correction of chromatic aberrations in the manner recited in the present claims.

Based on the foregoing, Applicant respectfully requests reconsideration and allowance of the claims since a combination of the cited references fails to yield the claimed invention.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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